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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/688,034	10/17/2003	Matthew Jason Zimmerman	D031001-1-NP2	2170

7590 11/05/2004

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EXAMINER

LOBO, IAN J

ART UNIT	PAPER NUMBER
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3662

DATE MAILED: 11/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/688,034

Applicant(s)ZIMMERMAN ET AL. **Examiner**

Ian J. Lobo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claims 1-27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, line 8, it is questioned what is "geo-referenced".

Further, in claim 1, line 6, the phrase "such as" is vague and indefinite since the intended scope of the claim language is unclear.

Claim Objections

2. Claim 1 is objected to because of the following informalities:

On line 5, "a at least" is questioned.

On line 8, there appears to be a comma missing between "roll" and "tilt".

Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 1-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kosalos et al ('931) when taken in view of White et al ('484) or Campbell et al ('264) or Geohegan, Jr. et al ('240) and Johnson et al ('827).

Kosalos et al (see Fig. 12) discloses a sonar system including an array of sonar sensors, at least one emitter and processing circuitry that generates a 3D model of a spatial volume.

The differences between claim 1 and the Kosalos et al system is the claim includes "at least one of a roll, tilt and yaw sensor" and "a latitude and longitude sensor such as a GPS".

Campbell et al (see Fig. 6), Geohegan, Jr. et al (col. 6, lines 49-61) and White et al (See Figs 5 and 6) each teaches sonar systems including a hydrophone and further including pitch and roll sensors. White et al, Geohegan, Jr. et al and Campbell et al each teaches that use of such roll and pitch sensors provides increased roll and pitch compensation for the hydrophone-detected signals and therefore provides increased accuracy for the hydrophone sensor. Johnson et al further teaches the use of a heading sensor 29 (gps) in sonar tracking systems for providing position information and a highly accurate time-of-day.

In view of the greater accuracy attributed to the use of such pitch and roll sensors with hydrophones, as taught by Campbell et al, Geohegan, Jr. et al and White et al, it and the advantageous use of gps for providing positional information and time of day information, as taught by Johnson et al, it would have been obvious to one of ordinary

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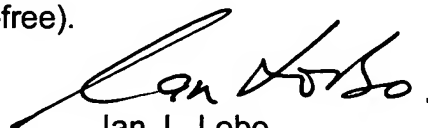
skill in the art to have modified the system of Kosalos et al to include such additional sensors (pitch/yaw/roll and gps). Independent claim 1 is so rejected.

It is pointed out that the breath of the dependent claims 2-27 are specific to the sonar signal processing system and structure which is provided by the Kosalos patent and additional reference patents

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ian J. Lobo whose telephone number is (703) 306-4161. The examiner can normally be reached on Monday - Friday, 6:30 - 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas H. Tarcza can be reached on (703) 306-4171. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ian J. Lobo
Primary Examiner
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